ZoneFlex™ 7962

Smart Wi-Fi Dual Band 802.11n AP

The First Centrally Managed Dual Band 802.11n Smart Wi-Fi Access Point with Mesh Support

The Ruckus Wireless ZoneFlex 7962 is the first centrally managed, Wi-Fi access point that unleashes the promise of 802.11n, delivering unparalleled throughput.

Together with the Ruckus ZoneDirector™ central WLAN controller, Ruckus ZoneFlex Access Points (APs) plug-and-play with minimal operational overhead. Ideal for hotels, schools, airports and medium-sized businesses with little or no IT staff and a limited budget, the Ruckus ZoneFlex 7962 is also perfect for hotspot operators that want to deliver business-class hotspot services — such as voice over Wi-Fi, IP-based video or secure enterprise access.

802.11n carries the promise of high data rates and throughput. The Ruckus ZoneFlex 7962 delivers on this promise by ensuring that the advanced techniques used in 802.11n, such as spatial multiplexing, channel bonding and frame aggregation, are optimized.

The ZoneFlex 7962 implements Ruckus-patented BeamFlex™ smart antenna technology that enables consistent, high performance, extended coverage and multimedia support as it automatically tunes itself to adapt to constant changes in the environment. This means fewer APs, more satisfied users, and a cost-effective system that can be installed anywhere by non-wireless experts.

A web-based wizard allows any computer user to configure ZoneFlex 7962s through the ZoneDirector — creating a secure and sophisticated WLAN in a matter of minutes.

Ruckus ZoneFlex 7962s simply plug into any Ethernet network and automatically discover the ZoneDirector. No RF tuning, no client configuration needed. A true plug-and-play multimedia WLAN that is ready to use.

BENEFITS

Breakthrough user performance and density

Advanced antenna array and precision Quality of Service (QoS) software delivers 20 concurrent voice calls, 100 simultaneous data users or 600 Mbps of capacity per access point.

No RF experts required

Smart antenna array eliminates AP placement issues and minimizes adjacent AP interference while ZoneDirector controls dynamic channel assignment and power management.

Smart Mesh Networking streamlines costly and complex deployment*

Integrated Ruckus Smart Mesh Networking technology automates deployment, and eliminates running Ethernet cables to every Smart Wi-Fi access point. *available in next release

Extended coverage means fewer APs

Directional, high-gain antennas dynamically combine to give hotspot operators and enterprises two- to four-times the coverage over typical consumer and enterprise APs.

Optimized for voice over Wi-Fi

Specialized antenna design, dynamic signal path selection and precision QoS software optimize delay-sensitive, high-density Voice-over-Wi-Fi (Vo-Fi) applications. Power Save (UAPSD) maximizes handset battery life.

Proven video streaming support

Ruckus smart antenna system and video QoS already proven for real time IP video streaming applications deployed by over 100 IPTV operators worldwide.

"IT lite" configuration and management

Web-based wizard enables configuration of multiple APs across the entire WLAN in minutes. Once configured, the WLAN manages itself.

Enables business class hotspot services

New revenue opportunities for operators such as Voice-over-WLAN services, extended enterprise access, IP video applications and tiered service classes.

Ruckus™ WIRELESS

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Ultra High Performance and Cost Effective

Based on the IEEE 802.11n standards, the Ruckus ZoneFlex 7962 supports up to 300Mbps per radio of data capacity. What differentiates the ZoneFlex 7962 is the integration of patented Ruckus BeamFlex Smart antenna technology that automatically adapts to the RF environment by steering Wi-Fi signals on the best path, while rejecting interference in real time.

Each Ruckus ZoneFlex 7962 comes equipped with a state-of-the-art, high-gain smart antenna array designed to deliver unsurpassed density and range. Supporting up to 100 simultaneous data users or 20 concurrent voice calls while its superior coverage reduces the number of APs required, the Ruckus ZoneFlex 7962 delivers the industry's the most cost-effective 802.11n Wi-Fi solution.

Simple Deployment

The self-optimizing Ruckus BeamFlex technology allows the Ruckus ZoneFlex 7962 to be installed without site survey and RF planning. Simply plug any Ruckus ZoneFlex 7962 into an Ethernet and it automatically discovers the Ruckus ZoneDirector and self-configures.

The Ruckus ZoneFlex 7962 and ZoneDirector system seamlessly integrate with existing security systems such as firewalls, intrusion detection systems and authentication servers including RADIUS and ActiveDirectory. An internal authentication database lets enterprises implement user authentication without the expense and complexity associated with external authentication servers.

Simple Configuration

Ruckus ZoneFlex 7962 APs are automatically configured by the Ruckus ZoneDirector. A network of APs can be centrally configured in a matter of minutes through the ZoneDirector's web-based wizard.

Smart Mesh Networking Increases Flexibility, Reduces Costs

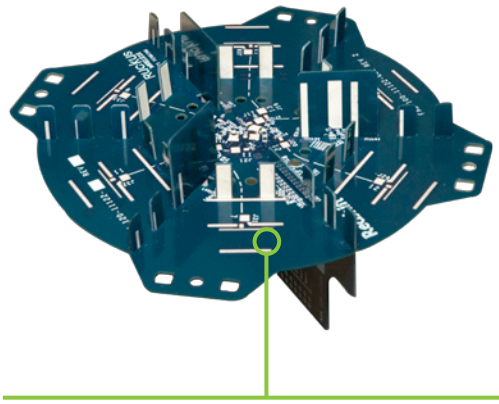
Ruckus Smart Mesh Networking enables self-organizing and self-healing wireless meshing. Smart Mesh Networking eliminates the need to run Ethernet cabling to every Smart Wi-Fi AP, allowing administrators to simply plug ZoneFlex APs into any power source, then walk away. All configuration and management is delivered through the ZoneDirector Smart WLAN platform.

Leveraging patented Ruckus Smart Wi-Fi technology that provides extended range and dynamic signal controls, minimizes the inter-nodal hops that can degrade performance, automatically adapts Wi-Fi connections between nodes to environmental changes, and requires fewer APs to be deployed.

Automatic User Security

Used with the Ruckus ZoneDirector, the Ruckus ZoneFlex 7962 provides first-of-its-kind automatic, robust user security enforcement.

Provisioning secure wireless access often involves configuring all the client devices with a wireless setting such as an SSID and encryption key. Typically organizations use a single pre-shared key for all employees. This is a security problem and an ongoing operational headache.



A patented smart antenna array integrates high-gain vertically-polarized and horizontally-polarized antenna elements. This enables up to 4,000 unique antenna patterns and up to 7 dBi gain, thereby delivering unprecedented range extension and signal reliability. The dual polarized smart antenna increases the effectiveness of spatial-multiplexing, resulting in higher data rates.

802.11n and BeamFlex™: A Winning Combination

A fundamentally new approach to Wi-Fi, 802.11n exploits advances and new techniques such as spatial multiplexing, channel bonding and frame aggregation to deliver higher data rates .

While theoretical data rates of 300 Mbps per radio or higher are advertised by vendors, actual and consistent user throughput is an order of magnitude less. This is because current 802.11n products don't make optimal use of these new techniques. Ruckus BeamFlex makes it happen.

- Dual polarized smart antenna array increases the effectiveness of spatial multiplexing
- Beamsteering provides active interference avoidance to ensure spatial multiplexing and the best possible paths used for spatial streams
- Signal path selection control and interference mitigation make channel bonding likely
- Optimizing the path to each client, reduces packet loss and better receive sensitivity increases effective throughput, enabling more frames to be aggregated

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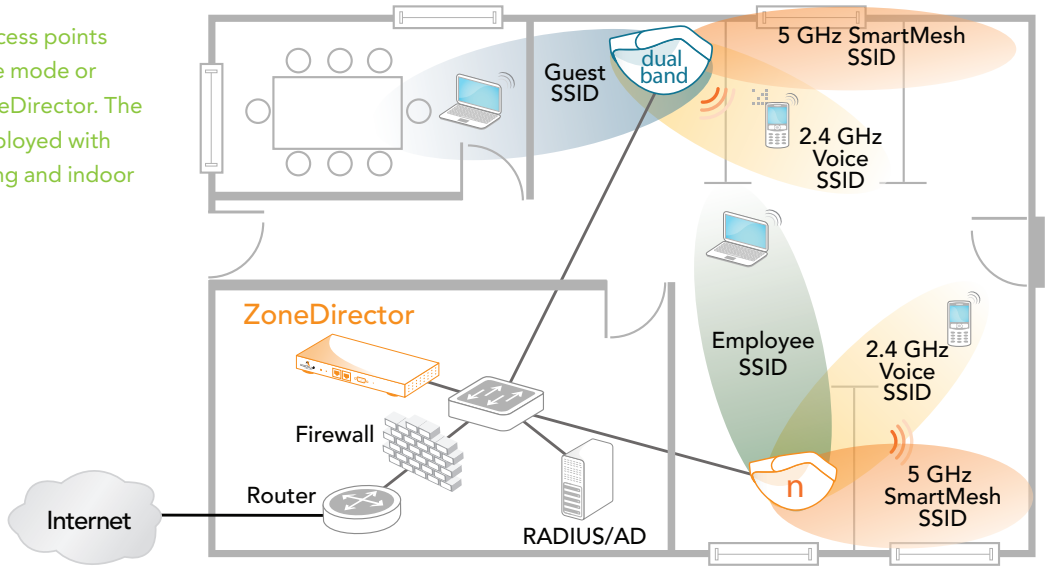
ZoneFlex 7962 Smart Wi-Fi access points can be deployed in standalone mode or managed by a centralized ZoneDirector. The ZoneFlex 7962 can also be deployed with Ruckus Smart Mesh Networking and indoor ZoneFlex 7962 access points.



Ruckus patent-pending Dynamic PSK on the Ruckus ZoneDirector and ZoneFlex 7962 automates this process to assure integrity of the user authentication system. First-time users simply plug their computers into the LAN and specify a URL that directs them to a captive portal for a one-time authentication. Upon authentication, the ZoneDirector automatically configures the user's system with the designated SSID and a unique, dynamically-generated encryption key. The key can be removed automatically upon expiration or manually when the user or their device is no longer trusted.

Business-Class, Multimedia Hotspots

The ZoneFlex 7962 now lets operators build a new class of hotspots and offer multimedia hotspot services. Equipped with dual-polarized directional antenna system, the ZoneFlex 7962 delivers stable connectivity to any Wi-Fi-enabled handheld device and flicker-free support for concurrent video streams and voice over Wi-Fi calls.

Differentiated Services with Multiple SSIDs

Up to eight discrete SSIDs can be configured within each Ruckus ZoneFlex 7962, each with unique broadcast, QoS, security and management parameters assigned. This enables hot zone operators to easily offer tiered services to different user or traffic types. Enterprises can use this features to differentiate guest, contractor and employee access policies or to segment different traffic types.

Dynamic RF Management

A Ruckus ZoneFlex WLAN is inherently RF-coordinated as BeamFlex automatically steers Wi-Fi signals toward each receiver and away from noise in real time. And unlike omni antennas, Ruckus BeamFlex does not constantly radiate in all directions, thereby minimizing the chances of adjacent AP interference. As a last resort, the Ruckus ZoneDirector can dynamically exert control over the RF channel assignment and transmit power levels on the ZoneFlex APs to further optimize the RF environment without manual intervention.

FEATURES

- Integrated smart antenna array with over 4,000 unique patterns designed for triple-play services
- Automatic interference avoidance, optimized for high density environment
- Two- to four-times extended range/ coverage
- 300 Mbps of data capacity, 80 Mbps sustainable video throughput for each radio
- Four queues per station
- Eight BSSIDs with unique QoS and security policies
- WEP, WPA-PSK, 802.1X
- Smart Mesh Networking (with ZoneDirector)* *available in next release
- Zero-IT and Dynamic PSK (with ZoneDirector)
- Admission control/load balancing (with ZoneDirector)
- Captive portal and guest accounts (with ZoneDirector)
- RADIUS and Active Directory support (with ZoneDirector)
- Advanced RF management (with ZoneDirector)
- Power over Ethernet (PoE)
- Ceiling or wall mountable (other mounting options available)

Specifications

PHYSICAL CHARACTERISTICS

POWER	• External power adapter
	  • Input: 110-240V AC
	  • Output: 12V DC, 1.5A
	• Power over Ethernet Class 0

PHYSICAL SIZE	• 19.43cm (L), 14.43cm (W), 12.38cm (H)
WEIGHT	• 680 grams (1.5 lbs.)
ANTENNA	• Internal software-configurable antenna array with directional and omni high-gain elements that provide over 4,000 unique antenna patterns
ETHERNET PORTS	• 2 ports, auto MDX, auto-sensing 10/100/1000 Mbps, RJ-45 • Power over Ethernet (802.3af)
LOCK OPTION	• Integrated Kensington lock
ENVIRONMENTAL CONDITIONS	• Operating Temperature: 32°F (0°C) - 122°F (50°C) with PoE 32°F (0°C) - 104°F (40°C) with AC power adapter • Operating Humidity: 15% - 95% non-condensing

PERFORMANCE AND SUPPORTED CONFIGURATIONS

CONCURRENT STATIONS	• Up to 100
TARGET UDP THROUGHPUT	• 150-200 Mbps (300 Mbps bursts) sustainable throughput for a 5000 sq. foot (460 sq meter) area for each radio for each band
SIMULTANEOUS Vo-Fi CLIENTS	• Up to 20

TRAFFIC MANAGEMENT AND QUALITY OF SERVICE

CLASSES OF SERVICE	• Voice, video, best effort and background
SOFTWARE QUEUES	• Four per station
802.11e	• Supported
AUTOMATIC TRAFFIC CLASSIFICATION	• Automatic type of service tagging for multicast video packets
RATE LIMITING	• Supported
VLAN SUPPORT	• 802.1Q
HEURISTIC CLASSIFICATION	• Supported

DEPLOYMENT

OPTIONS	• Managed by ZoneDirector • Individually managed • Managed by FlexMaster

MANAGEMENT

CONFIGURATION	• Web user interface, CLI (Telnet), SSH HTTP/S, SNMP via ZoneDirector, TR-069 via FlexMaster
STATISTICS	• LAN, wireless and associated stations (accessible via Web UI)
AUTO AP SOFTWARE UPDATES	• FTP or TFTP, remote auto available

WI-FI

STANDARDS	• IEEE 802.11a/b/g/n • 2.4Ghz and 5Ghz concurrent operation
SUPPORTED DATA RATES	• **802.11n:** 6.5Mbps – 130Mbps (20MHz) 6.5Mbps – 270Mbps (40MHz) • **802.11a:** 54, 48, 36, 24, 18, 12, 9 and 6Mbps • **802.11b:** 11, 5.5, 2 and 1 Mbps • **802.11g:** 54, 48, 36, 24, 18, 12, 9 and 6 Mbps
RADIO CHAINS	• 3 x 3
SPATIAL STREAMS	• 2
CHANNELIZATION	• 20MHz and/or 40MHz
FREQUENCY BAND	• IEEE 802.11n: 2.4 – 2.484 GHz and 5.15 – 5.85 GHz • IEEE 802.11a: 5.15 – 5.85 GHz • IEEE 802.11b: 2.4 – 2.484 GHz
OPERATING CHANNELS	• US/Canada: 1-11 • Europe (ETSI X30): 1-13 • Japan X41: 1-13 • 5GHz channels: Country dependent for the following channel ranges: 36, 40, 44, 48, 52, 56, 60, 64, 100, 104, 108, 112, 116, 120, 124, 128, 132, 136, 140, 149, 153, 157, 161, 165
BSSID	• Up to eight per radio (16 total)
POWER SAVE	• Supported
WIRELESS SECURITY	• WEP, WPA-PSK, WPA-TKIP, WPA2 AES, 802.11i • Authentication via 802.1X with the ZoneDirector, local authentication database, support for RADIUS and ActiveDirectory
CERTIFICATIONS	• U.S., Europe, Canada, Australia, India, China, Hong Kong, Japan • WEEE/RoHS compliance

Product Ordering Information

Model	Description
ZoneFlex 7962 Dual Band 802.11n Access Point	
901-7962-XX01	Centrally managed concurrent dual band 802.11n access point

PLEASE NOTE: When ordering you must specify the destination region by indicating -US, -EU, -UK, -UN, -AU, -UU or -IN instead of XX.

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Ruckus WIRELESS

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